Generations Recalculated: A Strict 15-Year Framework for Z, Alpha, and Older

Summary: This article presents a strict 15-year (quindecennial) framework for defining generational ranges using the Gregorian calendar rules and arithmetic progression. It explains formulae for calculating generation start and end years, gives a clean table of generations (including Gen Z and Gen Alpha), and provides sociological reasoning for the chosen cutoffs. (Research conducted by Niral Bhatt.)

Formulae for Generations

Formulae for the old Generations (A–Z) (1621–2010)

Start Year: $G_s = 1606 + 15p$

Last Year: $G_l = 1620 + 15p$

Where:

- G_s = Start year of the specific old generation.
- G_l = Last year of the specific old generation.
- p = Position of the letter of the specific old generation (for example: Z = 26).

Formulae for the new Generations (Alpha–Omega) (2011–2370)

Start Year: $H_s = 1996 + 15q$

Last Year: $H_l = 2010 + 15q$

Where:

- H_s = Start year of the specific new generation.
- H_l = Last year of the specific new generation.
- q = Position of the Greek letter for that new generation (for example: Alpha = 1).

These formulae are derived from the Gregorian calendar rule that *1 BCE is directly followed by 1 CE*, and by using arithmetic progression. They align closely with commonly cited ranges and provide mathematically consistent block boundaries.

These ranges for the Generations X to Alpha are also mentioned by a prestigious research institute, *Australian Bureau of Statistics*, in their 2021 census report, which is also a valuable source for our ranges.

The ranges for non alphabetic generations like Baby Boomers, Silent Generation, etc. are not applicable to these formulae. Generations A-W are proposed by me for referring to even older time, with the ranges based on the alphabetic generations (like Gen Z, Alpha).

History

In 2024, I (Niral) began researching generational boundaries and noticed disagreement in commonly cited ranges for Generation Z (examples: 1995–2010, 1997–2011). After reviewing Gregorian calendar rules and performing arithmetic checks, Niral developed a strict 15-year block framework and published the findings on 25 September 2025. Extended to this research with publishing handwritten notes for "Niral's Generation Formula" and a Python library ("gencalc") implementing the formulae were released in late September 2025.

Key events:

- 25 Sep 2025 — Published "Generations Recalculated: A Strict 15-Year Framework..." (archived version available Click here to see)
- 26 Sep 2025 — Published "Niral's Generation Formula" (handwritten notes published/archived Click here to see)
- 28 Sep 2025 — Released Python package gencalc (NovaCodon Gencalc) implementing formulae for start/end year calculations Click here to see

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Generation Z and Alpha: Real Dates (Mathematical & Gregorian & Sociological rationale)

Gregorian calendar key point

The Gregorian calendar has no year 0 — 1 BCE is followed immediately by 1 CE — therefore counting years is done on the natural numbers starting from 1. This affects how fixed-length blocks (like 15-year generations) map onto calendar years.

Generational concept used here

Generations are defined as strictly 15-year blocks. Each block is inclusive of its end year. Using arithmetic progression with a block length (d) of 15 yields end years that are divisible by 15 (when counting from year 1).

Arithmetic progression check (example using 2010)

1. Take 2010 and divide by 15: 2010 ÷ 15 = 134 remainder 0.
2. Because there is no remainder, 2010 is exactly the last year of a 15-year block.
3. Therefore 31 Dec 2010 is the end of one generation block (Gen Z in this framework).

Conclusion: the block that ends in 2010 runs from 1 Jan 1996 to 31 Dec 2010 (Gen Z). The next block (Gen Alpha) therefore runs 1 Jan 2011 to 31 Dec 2025.

As I aid, these ranges for the Generations X to Alpha are also mentioned by a prestigious research institute, *Australian Bureau of Statistics*, in their 2021 census report, which is also a valuable source for our ranges.

Generations Table (selected)

Generation	Start Year	End Year	Notes
Gen X	1966	1980	15-year block
Gen Y (Millennials)	1981	1995	15-year block
Gen Z	1996	2010	15-year block
Gen Alpha	2011	2025	15-year block

The Correct Timeline (final)

- Gen Z: 1 Jan 1996 – 31 Dec 2010
- Gen Alpha: 1 Jan 2011 – 31 Dec 2025
- Gen Beta: 1 Jan 2026 – 31 Dec 2040

Sociological reasoning & supporting points

Beyond the mathematical divisibility argument, sociological markers also support these boundaries:

- Children born from 2011 onward are fully digital natives — the early 2010s saw widespread digital payment systems and increased mobile-first experiences for example, IMPS launched in India on 22 Nov 2010, introducing mobile payments for the first time, and cross-bank technology, which influenced everyday life even by many other countries by the end of 2010, so the year 2011 is a digital native, actual year of Gen Alpha sociologically also. Other introductions like Instagram's release on 12 Oct 2010 also made the year 2011 digital native, there are other examples like the release of SnapChat on 8 July 2011 too, which proves that 2011 is really a digital native year, thus marking the actual start of Gen Alpha. Even calling 2011/2012 born people as Gen Z is not true by this third concept of real life de facto examples and sociology. Thus 2011 is the real satrt date of Gen Alpha, as the people born from 2011 onwards are fully digital natives which is the definition of Gen Alpha.
- Windows 95 (late 1995) and the technology diffusion of the mid-to-late 1990s contributed to the digital childhood as it was easier to use and more affordable, so more computers in more houses and this context thus characterizes the start of Gen Z in 1996, as the people born in this generation had a digital childhood and grew up as digital natives, which is the definition of Gen Z.
- Using strict 15-year blocks aligns mathematical logic with sociological trends and reconciles many of the commonly cited, conflicting ranges.
- People born in 2011/2012 are in born the period of **digital world**, and are far too young to be called Generation Z.

SO IF ANYONE IS BORN TODAY (24 NOVEMBER 2025), THAT PERSON WILL BELONG TO **GENERATION ALPHA** AND IF ANYONE WAS BORN ON 1 JANUARY 2011, THAT WILL ALSO BELONG TO **GEN ALPHA** BUT IF ANYONE WAS BORN ON 9 APRIL 2000, IN THE YEAR 1996, 31 DECEMBER 2010, THAT PERSON WILL BELONG TO GENERATION Z. I HAVE PROVED THE REAL TIMELINE USING (i)Mathematics, (ii) Calendar, (iii)Sociology FOR GEN Z AND GEN ALPHA. HOPE OUR FORMULA WILL MAKE EASIER FOR OTHER GENS ALSO! **AND, REMEMBER ONE THING, SOMETHING WIDELY CITED IS NOT ALWAYS TRUE!**